

IN THE CLAIMS:

Please amend claim 1 as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

Claim 1 (Currently amended): Hydroelastic joint for assembling pieces of a structure and for damping vibrations transmitted between said pieces, said joint being suitable for assembly of ground contact members to a main structure of a vehicle, said joint comprising:

- an external reinforcement and an internal reinforcement, each reinforcement having a longitudinal axis, wherein said external reinforcement and said internal reinforcement are disposed one around the other and intended to be fixed respectively to one and to the other of said pieces to be assembled;

- an intermediate reinforcement;

- an assembly forming a hydroelastic spring disposed between said external reinforcement and said intermediate reinforcement in order to permit a relative transverse displacement between said external reinforcement and said intermediate reinforcement, said assembly comprising a first elastically deformable element shaped in order to delimit between said external reinforcement and said intermediate reinforcement a sealed volume containing damping fluid;

- a plurality of longitudinal bosses separating said sealed volume into a plurality of chambers; and

- a second elastically deformable element being disposed between said intermediate reinforcement and said internal reinforcement, wherein said second elastically deformable element forms an elastic spring and has a longitudinal dimension less than a corresponding

longitudinal dimension of said first elastically deformable element, in order to limit a transverse deformation of said first elastically deformable element during a relative tilting of said longitudinal axes of said external reinforcement and said internal reinforcement about at least one transverse tilting axis, said longitudinal dimension of each of said first and second elastically deformable elements being defined as an axial dimension of a portion that substantially fills a radial space between corresponding ones of said reinforcements,

wherein said intermediate reinforcement is disposed between said first and second elastically deformable elements, said first and second elastically deformable elements adhere without interruption to said intermediate reinforcement, ~~and~~ wherein said second elastically deformable element adheres without interruption to said internal reinforcement, and wherein said intermediate reinforcement and said internal reinforcement each comprises a cylindrical central portion with a constant cross-section.

Claims 2 and 3 (Canceled).

Claim 4 (Previously presented): Hydroelastic joint according to claim 1, characterized in that said first elastically deformable element has two end walls in order to define said sealed volume between said end walls, said first elastically deformable element being provided with a peripheral reinforcement for rigidification at least at a level of said end walls in order to receive a reinforcement by fixing without adhesion in order to ensure impermeability of said volume of damping fluid.

Claim 5 (Previously presented): Hydroelastic joint according to claim 4, characterized in that said end walls connect in a sealed manner said intermediate reinforcement and said external reinforcement in order to define said sealed volume between said intermediate reinforcement and

said external reinforcement, said first elastically deformable element receiving by fixing without adhesion said intermediate reinforcement and said external reinforcement.

Claim 6 (Previously presented) Hydroelastic joint according to claim 1, characterised in that said sealed volume is divided by said plurality of longitudinal bosses into said plurality of chambers according to a first transverse direction defining a hydraulic damping direction of said assembly forming said hydroelastic spring, said assembly further comprising means for putting said plurality of chambers in communication in order to cause a hydraulic damping of said vibrations transmitted between said external reinforcement and said intermediate reinforcement at least according to said first transverse direction.

Claim 7 (Previously presented): Hydroelastic joint according to claim 6, characterised in that said means for putting said plurality of chambers in communication includes at least one valve lip fixed to said plurality of longitudinal bosses in order to come into contact with said intermediate reinforcement and said external reinforcement, said at least one valve lip being able to be folded back in order to put said plurality of chambers in communication when a pressure difference between said plurality of chambers exceeds a threshold value.

Claim 8 (Previously presented): Hydroelastic joint according to claim 6, characterised in that said first elastically deformable element has a plurality of limit stops projecting substantially at a centre of each chamber in order to limit a deflection between said external reinforcement and said intermediate reinforcement according to said first transverse direction.

Claim 9 (Previously presented): Hydroelastic joint according to claim 8, characterised in that said plurality of limit stops are pretensioned in transverse compression between said intermediate reinforcement and said external reinforcement.

Claim 10 (Previously presented): Hydroelastic joint according to Claim 1, wherein said second elastically deformable element has a rigidity which is less in at least one second transverse direction in order to define, perpendicularly to said second transverse direction, a preferential transverse tilting axis for said relative tilting of the axes of said external reinforcement and said internal reinforcement.

Claim 11 (Previously presented): Hydroelastic joint according to claim 10, characterised in that said sealed volume is divided into said plurality of chambers according to a first transverse direction defining a hydraulic damping direction of said assembly forming said hydroelastic spring, and said first transverse direction and said second transverse direction are parallel.

Claim 12 (Previously presented): Hydroelastic joint according to claim 10, characterised in that said sealed volume is divided into said plurality of chambers according to a first transverse direction defining a hydraulic damping direction of said assembly forming said hydroelastic spring, and said first transverse direction and said second transverse direction form an angle θ .

Claim 13 (Previously presented): Hydroelastic joint according to claim 10, 11 or 12, characterised in that said second elastically deformable element has at least two cells which are substantially longitudinal and opposite in said second transverse direction.

Claim 14 (Previously presented): Hydroelastic joint according to claim 1, 4, 5, 6, 7, 8, 9, 10, 11, or 12, characterised in that said first and second elastically deformable elements are obtained in a single moulding step.

Claim 15 (Previously presented): Hydroelastic joint according to claim 1, 4, 5, 6, 7, 8, 9, 10, 11, or 12, characterised in that said internal reinforcement is of an overall tubular shape and has a thickened or enlarged, or thickened and enlarged, wall section at a level of at least one of its longitudinal ends in order to provide an increased contact surface with a piece to which said internal reinforcement must be fixed or with means used for fixing said internal reinforcement to said piece.

Claim 16 (Previously presented): Hydroelastic joint according to claim 1, 4, 5, 6, 7, 8, 9, 10, 11, or 12, characterised in that said joint includes at least one external portion that is able to abut on one of said pieces of said structure to be assembled in order to prevent a deformation of said joint beyond a prescribed amplitude limit.

Claim 17 (Previously presented): Axle for an automotive vehicle comprising a beam bearing symmetrically at each of its ends a respective wheel support, said beam being provided symmetrically with two joints in order to assemble said beam to a main structure of said automotive vehicle and to damp vibrations, characterised in that said joints are hydroelastic joints according to claim 1, 4, 5, 6, 7, 8, 9, 10, 11, or 12.

Claim 18 (Previously presented): Axle according to claim 17, characterised in that said joints are fixed to said beam in order that a respective axis of each of said joints forms an angle α greater than 20° with a direction defined by two wheel supports.

Claim 19 (Previously presented): Hydroelastic joint for assembling two pieces of a structure and for damping vibrations transmitted between each piece, said joint being suitable for assembly of ground contact members to a main structure of a vehicle, said joint comprising:

an external reinforcement and an internal reinforcement, each reinforcement having a longitudinal axis, wherein said reinforcements are disposed one around the other and intended to be fixed respectively to one and to the other of said pieces to be assembled;

an assembly forming a hydroelastic spring disposed between said reinforcements in order to permit a relative transverse displacement between said reinforcements, said assembly comprising a first elastically deformable element shaped in order to delimit between said reinforcements at least one sealed volume containing damping fluid;

a second elastically deformable element being disposed between said assembly forming said hydroelastic spring and said internal reinforcement, wherein said second elastically deformable element has recesses in an axially outer portion thereof, in order to limit a transverse deformation of said first elastically deformable element during a relative tilting of the longitudinal axes of said reinforcements about at least one transverse tilting axis; and

an intermediate reinforcement disposed between said first and second elastically deformable elements, said first and second elastically deformable elements adhering on a central portion with a constant cross-section of said intermediate reinforcement, and said second elastically deformable element adhering on a central portion with a constant cross-section of said internal reinforcement, said second elastically deformable element comprising cells positioned within said recesses, said cells having a radial dimension less than a radial dimension of said recesses.